THAT WHICH IS CLAIMED IS:

     1.   A system for reviving a code used for channel coding data in data communications systems comprising:

     a data receiving circuit for receiving a
5 digital input data sequence to be coded with a code having a distance spectrum containing an infinite component that corresponds to a finite hamming weight such that the code may cause catastrophic error propagation, said circuit being operative for
10 periodically inserting known symbols into the digital input data sequence; and

     an encoder operatively connected to said data receiving circuit for encoding the digital input data sequence with the code.

     2.   A system according to Claim 1, wherein the known symbols that are inserted comprise zeros.

     3.   A system according to Claim 1, wherein said encoder comprises a convolutional encoder.

     4.   A system according to Claim 1, wherein said encoder is operative for trellis encoding the expanded digital input data sequence to produce a channel coded data stream such that the number of
5 connections between trellis nodes in a trellis are reduced.

     5.   A system according to Claim 4, wherein the trellis corresponds to a memory length m, and the known symbols are inserted after each m symbol within the input data sequence.

6.   A method of reviving a code used for channel coding data in a data communications systems comprising the steps of:

receiving a digital input data sequence to be
5   coded with a code having a distance spectrum containing an infinite component that corresponds to a finite hamming weight such that the code may cause catastrophic error propagation;

periodically inserting known symbols into the
10   digital input data sequence; and

encoding the digital input data sequence with the code.

7.   A method according to Claim 6, wherein the step of inserting known symbols comprises the step of inserting zeros into the digital input data sequence.

8.   A method according to Claim 7, and further comprising the step of inserting a zero after each of two information bits within the digital input data sequence.   · ·

9.   A method according to Claim 7, and further comprising the step of inserting a zero after each of four information bits within the digital input data sequence.

10.   A method according to Claim 6, wherein the code for encoding the digital input data sequence comprises a convolutional code.

11.   A method according to Claim 10, wherein the convolutional code comprises a time varying convolutional code.

12.   A method according to Claim 10, wherein the convolutional code comprises a time invariant convolutional code such that a corresponding state diagram contains a circuit in which a nonzero input

5   sequence corresponds to an all-zero output sequence.

13.   A method according to Claim 6, and further comprising the step of trellis encoding the digital input data sequence after inserting the known symbols to produce a channel coded data stream.

14.   A method according to Claim 13, wherein the topology of the trellis corresponds to a memory length m, and further comprising the step of inserting a known symbol after each m symbol within the digital

5   input data sequence.

15.   A method of reviving a code used for channel coding data in a data communications systems comprising the steps of:

receiving a digital input data sequence to be

5   coded with a code having a distance spectrum containing an infinite component that corresponds to a finite hamming weight such that the code may cause catastrophic error propagation;

periodically inserting known symbols into the

10   digital input data sequence; and

trellis encoding the digital input data sequence after inserting the known symbols to produce a channel coded data stream such that the number of connections between trellis nodes in a trellis are

15   reduced.

16.   A method according to Claim 15, wherein
the topology of the trellis corresponds to a memory
length m, and further comprising the step of inserting
a known symbol after each m symbol within the digital
5   input data sequence.

17.   A method according to Claim 15, and
further comprising the step of applying code words that
are one-to-one mappings of distinct paths on a trellis
to binary sequences.

18.   A method according to Claim 15, wherein
the step of inserting known symbols comprises the step
of inserting zeros into the digital input data
sequence.

19.   A method according to Claim 15, and
further comprising the step of inserting a zero after
each of two information bits within the digital input
data sequence.

20.   A method according to Claim 15, and
further comprising the step of inserting a zero after
each of four information bits within the digital input
data sequence.

21.   A method according to Claim 15, wherein
the code for encoding the digital input data sequence
comprises a convolutional code.

22.   A method according to Claim 21, wherein
the code comprises a time varying convolutional code.

23.   A method according to Claim 21, wherein the code comprises a time invariant convolutional code such that a corresponding state diagram contains a circuit in which a nonzero input sequence corresponds
5   to an all-zero output sequence.